Lighting CB and Lab Training Webinar

Product Certification and Reporting of Performance Data to EPA

June 17, 2016
1:30 – 3:00 PM EDT

Attendee Poll

How many people are viewing this webinar with you?

Are you actively involved in testing or certifying lighting products?

Speakers

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U.S. Environmental Protection Agency

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ICF Lighting Technical Lead for ENERGY STAR Product Specification Development

ICF International

Agenda

- Certification Questions
- Data Quality Issues
- Discussion

Question 1

Are CBs required to include information in the "optional" reporting fields in web services?

a. Yes for all products
b. Only for products for which the reporting fields apply
c. Only if the CB wants to include the information
d. Not sure

Answer 1

Are CBs required to include information in the "optional" reporting fields in web services?

a. Yes for all products
b. **Only for products for which the reporting fields apply**
c. Only if the CB wants to include the information
d. Not sure

7.1 Product Variations

Product variations are allowed *so long as variations will not negatively impact a lamp's compliance with any performance criteria in this specification*.

The model which the partner expects to have the *greatest difficulty* meeting the performance requirements outlined in this specification shall be tested ("tested representative model").

7.1 Product Variations

The following ***shall*** be satisfied for product variations listed below:

7.1.1 The tested representative model and the variant(s) shall have the *same rated input voltage(s)*.

7.1 Product Variations

The following ***shall*** be satisfied for product variations listed below:

7.1.2 Across a sample of up to 5 units of a variant, the average of *in situ* temperatures of critical components shall be no greater than 2.5°C above the same average of *in situ* temperatures in a sample of up to 5 units of the tested representative model. Critical components include (as applicable) the highest temperature LED package/array/module measured at TMP_{LED}, LED driver measured at TMP_C, ballast case temperature at T_C, capacitors and fuses.

7.1 Product Variations

The following ***shall*** be satisfied for product variations listed below:

7.1.3 For solid-state lamps, variation is not allowed where the *in situ* temperatures measured at each unit's highest temperature or the average of up to 5 unit samples TMP_{LED} is greater than the maximum case temperature tested in the corresponding IES LM-80 report.

7.1 Product Variations

The following ***shall*** be satisfied for product variations listed below:

7.1.4 OSHA NRTL safety listing or certification report shall be available that includes descriptions of both the tested representative model and variant(s) demonstrating their identical construction except for the allowable variations detailed in Table 2, as applicable.

7.1 Product Variations

The following ***shall*** be satisfied for product variations listed below:

7.1.5 Test report(s) shall be available from EPA-recognized laboratory(ies) for the tested representative model and the variant(s) demonstrating that variant performance for the following parameters varies by no more than the percent indicated while meeting this specification's requirements:

i. Input current and input wattage: ±10%

ii. Power factor: ±5%

iii. Maximum overall length, except as affected only by variations in lamp base or envelope shape: ±5%

iv. Maximum overall diameter: ±5%

Question 2

Is there a scenario in which Sections 7.1.1 through 7.1.5 do not apply to a family of Lamps?

a. Yes
b. No
c. Not sure

Answer 2

Is there a scenario in which Sections 7.1.1 through 7.1.5 do not apply to a family of Lamps?

NO!

Question 3

Regarding the Measured versus Reported directive (2011-05), which of the following is correct?

a. Either measured or reported values must meet the spec.
b. Measured and reported values must both meet the spec.

Answer 3

Regarding the Measured versus Reported directive (2011-05), which of the following is correct?

a. Either measured or reported values must meet the spec.

b. **Measured ***and*** reported values ***must both*** meet the spec.**

THIRD PARTY CERTIFICATION IMPLEMENTATION

ENERGY STAR® PRODUCTS

SUBJECT: Measured versus Reported Values for ENERGY STAR Certification	DIRECTIVE NO. 2011-05 Date: 6/14/2011

These specific guidelines are limited to the energy efficiency and energy consumption requirements as follows:

1. Measured values and reported values must both meet the applicable ENERGY STAR specification.
2. For products not subject to Federal energy conservation standards, the reported value shall not be more efficient than the measured value. More conservative ratings are allowed.
3. For products subject to Federal energy conservation standards, the reported value should be the certified rating as determined under DOE's regulations.

Globe Example

- All units measure in the “60W Globe replacement lamp” lumen bin (500-574 lumens)
- Both the specification and directive allow for more conservative reported values.
- However, those reported values must still comply with the specification requirements for efficacy and equivalency claims.

Therefore:

- Partner may claim more conservative output of 500 lumens (and claim 60-watt equivalency).
- Partner may not claim 40-watt equivalency.

Question 4

Under V2.0, which of the following values is required to be reported for PAR, MR, and MRX lamps? *(Choose all that apply)*

a. Initial light output
b. Center beam intensity measured value
c. Measured beam angle
d. Reported beam angle

Answer 4

All of the following values ***must*** be reported for PAR, MR, and MRX lamps.

a. Initial light output *(new under V2.0)*
b. Center beam intensity measured value
c. Measured beam angle
d. Reported beam angle

Question 5

For lamps marketed as dimmable, what additional information must be submitted? *(Choose all that apply)*

a. Maximum Light Output (%)
b. Minimum Light Output / Dimming %
c. Flicker (light output periodic frequency, highest percent flicker, and highest flicker index)
d. Audible Noise

Answer 5

For lamps marketed as dimmable, what additional information must be submitted? *(Choose all that apply)*

a. Maximum Light Output (lm)
b. **Minimum Light Output / Dimming %**
c. Flicker (light output periodic frequency, highest percent flicker, and highest flicker index)
d. Audible noise

All of the Above

Some incentive programs rely on Dimming % for rebates.

Optional QPX Fields

Name	Description
Dimmable	Indicate whether the model is dimmable or non-dimmable.
Dimming: Maximum Light Output	*(Optional field but)* Required for models claiming dimming capability.
Dimming: Claimed Minimum Light Output	*(Optional field but)* Required for models claiming dimming capability.
Dimmer Compatibility	*(Optional field but)* Required for models claiming dimming capability.
Dimming - Flicker: Average Light Output Periodic Frequency (Hz)	*(Optional field but)* Required for models claiming dimming capability.
Dimming - Flicker: Percent Flicker	*(Optional field but)* Required for models claiming dimming capability.
Dimming - Flicker: Flicker Index	*(Optional field but)* Required for models claiming dimming capability.
Dimming - Audible Noise (dBa)	*(Optional field but)* Required for models claiming dimming capability.

Question 6

For which of the following lamp types is measured and reported initial light output required? *(Choose all that apply)*

a. Omnidirectional
b. Directional (R, BR and ER)
c. Directional (PAR, MR and MRX)
d. Decorative
e. All of the above

Answer 6

For which of the following lamp types is measured and reported initial light output required? *(Choose all that apply)*

a. Omnidirectional
b. Directional (R, BR and ER)
c. Directional (PAR, MR and MRX)
d. Decorative
e. ***All of the above***

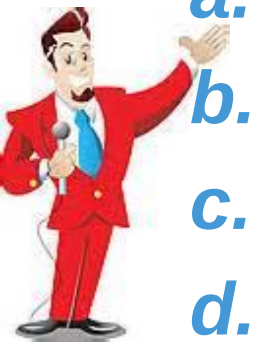
Question 7

For which of the following lamp types is the reporting of Color Angular Uniformity required? *(Choose all that apply)*

a. PAR30L
b. BR30
c. R20
d. MR16
e. None of the above

Question 7

For which of the following lamp types is the reporting of Color Angular Uniformity required? *(Choose all that apply)*



a. ***PAR30L***
b. ***BR30***
c. ***R20***
d. ***MR16***
e. None of the above

Question 8

For all _____, reporting of Color Maintenance is required.

a. Compact fluorescent lamps and luminaires
b. Solid-state lamps and luminaires
c. Lamps and luminaires

Question 8

For all _____, reporting of Color Maintenance is required.

a. Compact fluorescent lamps and luminaires
b. Solid-state lamps and luminaires
c. Lamps and luminaires

Optional QPX Fields

Name	Description
LED: Color Maintenance	*(Optional field but)* Required for all solid state lamps.
LED: Color Angular Uniformity	*(Optional field but)* Required for directional solid state lamps.

9.8. Color Maintenance: All Solid-State Lamps
(Exemption: Compact Fluorescent Lamps)

9.9. Color Angular Uniformity: Solid-State Directional Lamps
(Exemption: All Other Lamps)

Question 9

Where can you find the lamp space drawing for a PAR16 lamp?

a. C78.21-2011
b. C78.50-2014
c. It depends

Question 9

Where can you find the lamp space drawing for a PAR16 lamp?

a. C78.21-2011 ***(E26, Medium Screw Base)***
b. C78.50-2014 ***(GU10 Base)***
c. It depends

Question 10

How often should users download the ENERGY STAR TM-21 (or TM-28) Calculator?

a. Each week
b. Each use
c. Each month
d. Each year

Question 10

How often should users download the ENERGY STAR TM-21 (or TM-28) Calculator?

a. Each week

b. Each use

c. Each

d. Each

ENERGY STAR® TM-21 Calculator

Note: Users should download a new copy of this calculator for each use, to ensure use of the most up-to-date version of the calculator. Users are encouraged to bookmark the hyperlink to this calculator. Project-specific copies complete with calculations may be saved on a local drive.

TM-21 & TM-28 Calculators

ENERGY STAR TM-21 Calculator:

https://www.energystar.gov/sites/default/files/ENERGY%20STAR%20TM-21%20Calculator%20rev%2002-08-2016%20clean_0.xlsx

ENERGY STAR TM-21 Calculator for Uneven Test Intervals:

https://www.energystar.gov/sites/default/files/ENERGY%20STAR%20TM-21%20Calculator%20for%20Uneven%20Test%20Intervals%20rev%202-8-2016_0.xlsx

ENERGY STAR TM-28 Calculator:

https://www.energystar.gov/sites/default/files/ENERGY%20STAR%20TM-28%20Calculator%20rev%2002-08-2016%20Final.xlsx

All available at www.energystar.gov/luminaires

Question 11

Should any combination of nominal size, wattage, etc. be entered into the Center Beam Intensity Benchmark Tool?

a. Yes
b. No

Question 11

Should any combination of nominal size, wattage, etc. be entered into the Center Beam Intensity Benchmark Tool?

a. Yes

b. No

Center Beam Intensity Benchmark Tool

Step 1: Enter PAR/MR Lamp Class
Step 2: Enter Nominal Lamp Wattage*
Step 3: Enter Nominal Beam Angle**

*Nominal wattage to which partner is claiming equivalency, per ANSI C78.21-2011: American National Standard - Incandescent lamps: PAR and R Shapes.

****Nominal beam angle to which partner is claiming equivalency, per ANSI C78.379-2006: American National Standard for Electric Lamps - Classification of the Beam Patterns of Reflector Lamps.

Center Beam Intensity Benchmark Tool

Only the wattages listed below can be entered as the nominal lamp wattage for each respective diameter.

Lamp Class	Diameter	Permitted Wattages
16	16	20, 35, 40, 45, 50, 60, 75
20	20	50
30S	30	40, 45, 50, 60, 75
30L	30	50, 75
38	38	40, 45, 50, 55, 60, 65, 75, 85, 90, 100, 120, 150, 250

9.4. Center Beam Intensity: PAR, MR and MRX Lamps

Lamps V2.0 does not support equivalency claims to reference incandescent or halogen products that have not been commercially available.

For equivalency claims not supported by the tool, lamp must meet or exceed the measured center beam candlepower (CBCP) of the referenced incandescent or halogen product with the same nominal beam spread.

Question 12

For lamps that meet the criteria to be recognized as connected, what additional information must be submitted? *(Choose all that apply)*

a. Standby Power Consumption
b. Communication Method
c. Standby Power
d. None of the Above

Question 12

For lamps that meet the criteria to be recognized as connected, what additional information must be submitted? *(Choose all that apply)*

a. ***Standby Power Consumption***
b. ***Communication Method***
c. ***Standby Power***
d. None of the Above

"Optional" QPX Fields

Name	Description
Standby Power	Indicate whether the model consumes power in the off state.
Standby Power Consumption (W)	*(Optional field but)* Required if standby mode power consumption is greater than 0.
Standby Power (Outside of the Lamp) Required for Connected (W)	*(Optional field but)* Required for any equipment (outside of the lamp) that is required for connectivity.
Connected Lamp	*Indicate whether the lamp meets the criteria to be recognized as connected*.
Communication Method	*(Optional field but)* Required if Connected Lamp is Yes.
Communication Method Other	*(Optional field but)* Required if Communication Standard is Other.

Bonus Question

Which of the following reflector/trim finishes within a luminaire family would be the most appropriate representative model?

a. Specular silver
b. Specular black
c. Specular gray
d. Specular white

Bonus Answer

Which of the following reflector/trim finishes within a luminaire family would be the most appropriate representative model?

a. Specular silver
b. Specular black (as long as it passes)
c. Specular gray
d. Specular white

Luminaire Product Families

Allowable Variations Within Product Families		
Luminaire Attribute	**Allowable Variation**	**Additional Test Data Required for Each Variant**
Reflector / Trim	Allowed so long as luminaire light output is not reduced.	Luminous flux for each basic trim or reflector variation of the darkest or least efficient finish may be required.

The Additional Notes field should clearly indicate which combinations are covered by the family listing (and which are not).

Luminaire Product Families

Grouped product submissions for ENERGY STAR certification *shall* meet the following requirements:

- Certified products within a product family *shall* be identical to the tested, representative model with the exception of allowed variations listed in the table below.
- The representative model *shall* be the variation expected to have the greatest difficulty meeting the performance requirements outlined in this specification.

How did you do?

Automated Data Quality Checks

	ENERGY.STAR.Partner	CB.Organization.Name	PD_ID	Efficacy_Check	Wattage_Equivalency_Check
1	Partner 1	CB 1	2229671		CHECK DATA
2	Partner 1	CB 1	2229670		CHECK DATA
3	Partner 1	CB 1	2222107	CHECK DATA	
4	Partner 2	CB 1	2242457		CHECK DATA
5	Partner 2	CB 1	2255369		CHECK DATA
6	Partner 3	CB 1	2255370		CHECK DATA
7	Partner 3	CB 1	2265708	CHECK DATA	
8	Partner 3	CB 1	2265709	CHECK DATA	CHECK DATA

Upcoming Communication

1. Utilities, retailers, partners and others rely on the EPA product list to include high quality data on product performance.

   EPA will run checks on data regularly and share issues with CBs.

2. EPA plans to share first results next week and expects issues to be corrected or discussed with EPA within 2 weeks

3. CBs are encouraged to upgrade quality control systems to ensure highest quality of data reported on EPA product lists

Questions?